

<sup>9</sup> In fact, the authors prove:

[illegible]

From 1739 onward there came, however, in rapid succession a number of inventions, each aiming at automating mechanical motions for the slow and uncertain operations of human fingers in spinning. John Wyatt, Thomas High, James Hargreaves, Richard Arkwright and Samuel Crompton are the chief names on this roll of honor. Hargreaves invented the spinning jenny, the device being named after a wife, and Arkwright the water frame. Both inventions were actually brought into use for commercial purposes between 1780 and 1790 and a few years later Crompton produced a new machine called the "mule," because it combined the characteristics

In the early years of the nineteenth century strain began to displace water as the motive power in mills and factories, but when Robert Owen came to Manchester about 1788 the spinning machinery at employed in the great mills which were springing up on every side in Manchester was powered by water. In the textile manufacturers on a smaller scale drove the spinning jennys and mules by hand or foot. During the last twenty years of the eighteenth century there was an enormous expansion of cotton manufactures, the amount of raw cotton imported annually into Great Britain increasing from less than 100,000 bales in 1760 to 1,000,000 bales in 1800. In the same two decades the value of the cotton cloths annually exported increased from £255,000 to £2,400,000. By 1787 there were forty-one cotton mills in Lancashire and fifty years later the number had increased to 651, while the number of operatives employed in them was computed at 1,000,000. It is difficult to estimate the industrial revolution may be said to have been complete and the cottage industry had practically ceased to exist except in a few moorland parishes and other remote corners of England.

Three years after his removal to Manchester, Owen applied for a patent for a cotton factor employing 500 hands and within a twelvemonth so improved the process of manufacture that he produced yarns running from 250 to 300 knots to the pound instead of 120 knots, the utmost then attained under his predecessor in the business. In 1794 he was joined by Chorlton Twist Company, and in 1799 purchased cotton mills at New Lanark from David Dale of Glasgow, agreeing to pay therefor £20,000 in twenty annual instalments. In the same year he married a daughter of John Aikin, and the association of the two surprisingly enriched families Greeneyes. We should here mention that in 1794 Owen became intimately acquainted with Robert Fulton and made him loans amounting in the aggregate to £170, only a part of which was repaid. In his later years Owen was distinguished by considerable pride in having been able to help one who was to do so much for the advancement of the world through his application of steam power to navigation.

III

It is well known that the industrial revolution which took place in England toward the close of the eighteenth century had some disastrous effects upon the working people through the extensive employment of child labor and the prevalence of malignant fever, which was due to the non-sanitary conditions of the houses of those days it was the practice to compel pauper children from the age of 6 upward to do useful work, either in the workhouse itself or as apprentices to outside employers. In the early years of the application of machinery and steam power to cotton manufacturing the children were taken to the spinning mills. Even where the mill owners were themselves liberal and humane, like Owen's father-in-law, David Dale, the vicious system still permitted all manner of iniquity and oppression. The ages of the children when apprenticed to Mr. Dale were from 5 to 8 and the hours of labor in the mills at New Lanark from 6 in the morning to 7 in the evening. Owen, in his evidence before the committee of 1816, explained that from these thirteen hours were to be deducted one and a half hours allowed for meals, but even so, the children were at work for eleven and a half days. Remedial legislation began in the act of 1802, which Sir Robert Peel carried through Parliament, and the general conditions of child labor in the cotton factories were still further improved by the act of 1819. It was not until 1816 that Owen, having been hampered by the act of 1802, was able to reduce the nominal hours of work at the New Lanark mills to twelve hours a day. He ultimately succeeded in raising the lower limit of age at which children could be em-

The name of Robert Owen is little known to the present generation as an educational reformer. His name is mentioned in his biographical articles in the *Encyclopædia Britannica*. Two causes are suggested for the undeserved oblivion which has fallen on this part of his life's work. In the first place he published no formal treatise on pedagogy and did not even find time to write a systematic account of the scheme of instruction actually pursued in the New Lanark schools. The main reason, however, for the forgetfulness of the work accomplished by him is to be found in the fact that his reputation acquired by Owen the Socialist, Owen the infidel and Owen the spiritualist, which eclipsed the fame of Owen the founder of infant schools and the pioneer in Britain of rational education.

Robert Owen's ideas about education had the defect characteristic of the self-taught thinker; they were already belated, even at the time when he applied them in his experimental schools. The importance of post-natal circumstances in forming character he was guided by his bias of the eighteenth century thinkers. As a matter of fact, however, the reaction against the pre-revolutionary philosophy had set in long before 1813, and the great conception of evolution was even then dawning on the world. The pain facts of heredity, though not of course bulking so large as in modern thought, were recognised as counting for much more than Robert Owen had ever imagined. It is also to be remarked that his first years at New Lanark shut him off to a great extent from intercourse with educated men.

born at New Lanark no prizes for industry or good conduct, nor was any child punished for idleness or disobedience. The children were taught to find the best perspective to industry in the pleasure of learning and in the spirit of innocent ambition which springs naturally when the children are learning in company. Sustaining a good conduct brought their own reward in the friendly feeling which they called forth in their fellows. The children were free to follow their parents and other relatives to the mill, to the fields, and, where travelling was done in business and all concerns, were left to be reasonable and must not be opposed in the interests of the children themselves. There was little compulsion on the attendance. Such as at any rate, was the theory on which the New Lanark schools were governed, and by the general testimony of those who saw the system in action, children to schools and parents to a new era before

Mr. Chamberlain declared to the world that he was assisted by Robert Owen in the second decade of the nineteenth century for the unemployed. The problem which he treated in color was urgent. During the century decade of war with the French Republic and Empire Great Britain had the lion's share of the carrying trade of the world, but in 1815 when the fighting ceased was found the continental industries revived and Britain's foreign trade was proportionately curtailed. Moreover, the island's labor market was disturbed by the sudden displacement of the huge military and naval forces and the return to domestic industries of some 200,000 idle British men. Thus a straining of the labor market was inevitable for the sake of laborers. It is not surprising that wages should have fallen rapidly and that hunger and suffering should have been experienced throughout the land for some years thereafter. Owen managed to keep the mills at New Lanark working, but had to turn away daily many applicants for employment. Owen was not alone in his struggle with the unemployed. In 1816 and 1817 Robert Owen first propounded his celebrated plan for the provision by the State of useful work for the

employed, the promulgation of which marked the beginning of modern socialism. He laid down the postulate that the ultimate cause of the poverty of the masses was the displacement of human labor by machinery. He asserted that in Great Britain alone machinery represented the labor of more than a hundred millions of the most industrious human beings; and as machinery displaced human labor, the working class in the nature of things tend continually to displace more and more the mere toiler with his hands. His conclusion was that either the use of machinery must be curtailed or millions of British subjects must be displaced. He pointed out that the most frequently advantageous occupations must be found for the poor and unemployed working classes, to whose labor mechanism must be rendered subservient instead of being applied to supersede it. Nothing came of this proposal, but it was a landmark in the history of social reform, and secured for his views.

Even with the party of reform his ideas found little favor. Men of the type of Cobden could not be expected to approve the benevolent paternal despotism which the Owenites advocated. They led him to regard as the ideal constitution. The Radicals were convinced that even if a scheme of the kind proposed by Owen were practicable it could but act as a temporary palliative, and in the long run must be harmful to the cause of progress by diverting attention from the more radical measures for the prevailing distress. Looking back upon it, however, from the point of view of the twentieth century, the author of this book maintains that in its original form Owen's plan could scarcely be classed as a quick remedy. Indeed, the interesting suggestion of a central vacant store for unemployed labor has continued to inspire successive generations of social reformers down to the present day. Mr. Podmore reminds us that no less an authority than Ricardo was in favor of giving Owen's scheme a fair trial.

Owen, however, had other enemies besides the reformers. "Southey had already discovered that Owen was not a student of social regeneration. He was not based on religious principles. Indeed, though Owen had refrained from defining his attitude precisely in his published essays, he had made it sufficiently clear that his own religious beliefs were far removed from orthodoxy. To a mind like Owen's the mere suppression, from no ignoble motives, of unpopular opinions must have seemed like a reason for the truth. Accordingly, Owen attended a public meeting held on August 21, 1817, resolved boldly to confront his accusers of the clerical party and to leave unspoken no jot or tittle of his message to mankind. In the speech made by him on that occasion he admitted frankly that the experiment in State Socialism advocated by him would be a failure unless it were based on a general renunciation of all existing religions. Unless, he said, men should renounce all religious beliefs, all preconceived religious notions and to feel the justice and necessity of acknowledging publicly the most unlimited religious freedom it would be futile to erect villages of union and mutual cooperation; for it would be vain to look on this earth for occupants of such villages who could understand how to live in the bond of peace and unity, or who could really love their neighbors as themselves. The world were full of Gentile, Mohammedan or Pagan, Infidel or Christian. He declared that "any religion that creates one particle of feeling short of this is false, and must prove a curse to the whole human race." Such was the famous denunciation of all the religions of

His theology was borrowed from revolutionary France. In these days his great doubts have been labelled an egoism and his views would have been regarded even by the Church of England as toleration or indifference. That Church was less tolerant some years ago. During the period under review there were many professions for 'slavery' and 'abolition' and the author considers that a person who in any other country was a persecutor to either the Slaves or the Abolitionists would have been subjected for some years in England to the hands of the Clerical party as well as those some prohibition. It was not difficult for an intemperate and intemperate Christian to convince himself that abolition stood as an avowed social order, morality and religion; that its creed was not only blasphemy and its means force

For some three years after the collapse of the communist experiment known as Armenia, Hailu Chen published no important works and had no periodical to represent his work. In 1989, however, the chief editor of his system previously set forth in the book of the New Moral World were

participated in a slim volume of volume entitled *The Revolution in the Mind and Practice of the American Race, or the Coming of the Nineteenth Century from Slavery to Liberty*. In November, 1850, appeared the first of Robert Owen's *Journal: Explanatory of the Means to Well-being, Well-employ and Well-achieve the Population of the World*.<sup>1</sup> From this time onward Owen was represented by a succession of periodicals until his death in 1858. He now had, however, no organized body of disciples, and in the days of 1850-55 his principles were no longer considered the varying fortunes of the world. Owen's papers and other documents were now filled with repetitions of his message in various forms, leading articles, addresses to Governments, letters to prominent statesmen and reprints of Owen's previous publications. His mind was feeding on itself, he could but repeat his message in endless monotony.

The personality of the subject of this biography is brought home vividly to the reader in a final chapter Robert Owen called "Owen's Character." It is a portrait of a man. Of his ugliness in middle life there is no doubt, but with advancing years it is probable that the rugged lines of the face were somewhat softened. In general aspect Owen could be a bore of the first magnitude. He was conscious of a message he delivered to mankind, and in the business of its delivery he recognized no limitations of place or season and no distinction between persons; his indifference to social conventions and his earnestness brought to all life commanded the respect of all. Mrs. Martineau has testified that he interested her by his candor and cheerful-ness, his benevolence and charming manners, which "would make him the most

popular man in England if he could but distinguish between assertion and argument, and abstain from wearing his friends with his monotonous doctrines." Miss Martineau added, "His certainty that he is a moral man is a fatal error. His imagination that we are going to do so immediately under his guidance, have caused a wisdom to be overlooked in his absurdity. I own I became weary of him, while ashamed, every time I witnessed a fine temper and manners, of having it so." Miss Martineau, however, was nearly one of many who, without any special sympathy with Owen's plans for the regeneration of the world, were drawn into terms of affectionate intimacy with him by the force of his personal character. In one who accepted Owen not merely as a friend but as a prophet the feelings which he inspired went far beyond ordinary affection.

... was a man without guilt. ... was also without malice. It was the ... in him, in a supreme degree, of sin- ... and good will that explains his sin- ... thousand friend remained in his sur- ... thousand friends instead of a ... would have been long enough to go ... The stream of kindness flowed ... in inexhaustible until the end, which came ... November, 1858. His life had been one ... protest against the poverty and un- ... -needless, as he conceived ... saw around him: "My hand and ... were always open; actually they ... in a word, Owen carried out ... In a word, Owen carried out ... "My

genuine religion, which never died and never will consist in unmeaning phrases, forms and ceremonies, but in the daily, unobtrusive practice, in thought, word and deed, of charity, beneficence and kindness to every living being.

to come into communication or have any transaction, near or remote." M. W. H.

**Samuel Adams's Correspondence.**

The third volume of *The Writings of Samuel Adams*, collected and edited by JAMES ALONZO CUSHING (Putnam), covers a successful period from March, 1773, to December, 1777. Within this period took place the battle of Bunker Hill, the expedition under Montgomery and Arnold to capture Canada, the Declaration of Independence, the evacuation of Boston, the occupation of New York by the British and the flight of the new treasury committee, including the American commissioners to France, to the Netherlands, to Prussia and to Sweden, and the campaign that culminated in the surrender of Burgoyne, which was to be followed by the evacuation of the British from

the letters here printed set forth the common-sense, common-sounding events, made at the time the papers were written by any man other than the man who shaped the attitude of the colony of Massachusetts toward its mother country; a man who borrowed his opinions from nobody, but who for a quarter of a century exercised a preponderant influence in New England.

It is not surprising that references be found to a letter addressed to his wife from Philadelphia on June 28, 1775. After mentioning that he had just received letters from friends at the camp in and around Cambridge informing him of the engagement between the British and the American troops in Charlestown, he says of the result, "I do not but be greatly rejoiced that all our countrymen behaved with an intrepidity becoming those who fought for their liberties against the mercenary soldiers of a tyrant." He adds: "The death of our truly amiable friend Major General Warren is greatly regretted. The language of the General is: 'I die but we shall we reign him!' But I intend to submit to the disquisitions of Heaven, whose ways are ever gracious to the just or just." He fell in a glorious struggle for the public liberty." Referring to the letter recently issued by Gen. Gage in which he says that the war was a personal exertion from him, he says: "Gage has made me read his letter naming me first among those who he does not receive no favor from him." He answers his wife that the proclamation was the subject of ridicule in Philadelphia.

On the same subject on September 17, 1775, he writes from Philadelphia to Elizabeth Gerry, Samuel Adams said that in letters from the

the organization of Boston by Clay. The Bostonian is master of a letter from Massachusetts dated April 30, 1838, to John Quincy Adams, in which Adams is asked to "relate your and your brethren's conduct, and, upon the precipitate flight of the Bostonians and its adherents from the town of Boston, and upon the capture of the vessel on the 19th of April, and upon the measures for fortifying the harbor, so that the vessel might never approach if forced in." Adams on the way "I am greatly concerned at the present deteriorated state of the nation, and indeed of the whole human state, which comprehends New England." Adams has applied for and obtained a leave of absence from Congress to consider the state that district. In the meantime, Adams at the General Assembly and the Senate, exerting themselves for the people.

and have been in full possession of their rights, mortifying no man's conscience in the least measure. In the same letter he informs his correspondents that Congress has at length declared its colonies free and independent. Stationed as I congratulate you, for I know your heart has long been so, upon the occasion, my feelings are somewhat affected: "much has been lost by giving up this decisive step. It is my opinion that if it had been done nine months ago, might have been justified in the sight of God and man. If we had done it then, my opinion is that it would have been one of the United Colonies, but which is to be ensured for the hardness of man's hearts." Concerning the significance of the Declaration of Independence, Adams points out that "we shall now see a way clear to forgiveness and pardon, to balance and to our ambassadors to foreign Powers, and do other acts becoming the character we have assumed."

in a letter from Philadelphia to James Warren, dated June 30, 1777. Adams alludes to the proposed Articles of Confederation, on the subject of debate in the Continental Congress. One question, he says, "What share of votes each of the States, which differ so much in wealth and numbers, shall have in determining the action of the Congress of the Confederation." After pointing out that the union of the States and the security of the liberty of the whole will depend on the solution of this problem, he expresses the belief that the Continental Congress will arrive at the decision, that each State shall have one vote. But that certain great questions shall require the consent of votes of nine States for a decision.

pair. He seems to have no confidence in his troops, or in the States whence reinforcements are to be drawn." Schuyler, it seems, announced that "Gen. Burgoyne is bending his course this way. He will probably be here in eight days, and unless we are well reinforced" (which Schuyler did expect) "as much further as he pleases—poor! Adams's comment is: 'Was ever a poor General more mortified?' But he was by this time received his quarters. Gates takes the command there, and I trust our affairs in that quarter will soon wear a more promising aspect." So they did, thanks mainly, however, not to Gates, but to Benedict Arnold.

### TOOTH PLUGGING.

Kilkinton Changes His Views Regarding an Old Song.

You remember," said Mr. Kilkinton, that grand old song. Grandpa's teeth are filled with zinc."

Well, I always supposed that that zinc mine was simply a grotesquely humorous flight of fancy. I never thought that anybody's teeth could really be filled with zinc; but now I am not so sure about that.

For instance, I have had four teeth filled, and no two have been filled with the same material. One was filled with amalgam, one with gold, one with porcelain and one with gutta percha; and now the material I used to fill Grandpa's teeth with in the "song" doesn't seem to me anything less ridiculous as it did.

Grandpa's teeth were yet to be filled; and the dentist keeps on as he has begun, filling something different for every tooth.

I wouldn't be surprised if before long I got enough I had one tooth at least filled with